January 1984

High-speed corridors: A realistic appraisal

RAILWAY AGE

...for the new age of railways

- 6400 - 1 1/9/84

Change!

It will be nothing less than an American transportation revolution—and its time is fast approaching.

It will bring significant public benefits through the restructuring of a now-fragmented transportation industry. It will bring significant benefits to transportation agencies through productivity improvements made possible by that restructuring.

The whole world of transportation will be changing. And railroads will be the key to that change.

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CONGRESSIONAL INFO SVC
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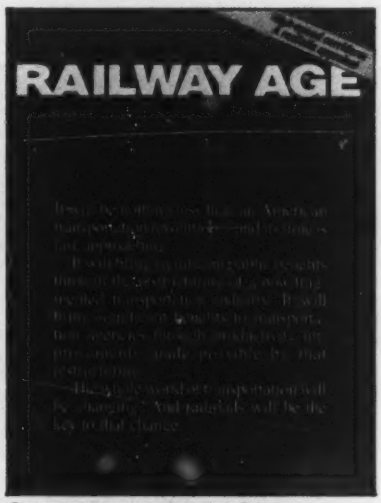
RAILWAY AGE
...for the new age of railways



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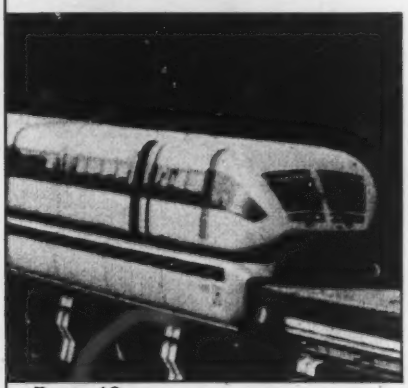

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Railroads are in the forefront of the revolution that is sweeping American transportation. In the first of a year-long series of articles, Senior Editor Gus Welty examines the promises—and the pitfalls—of change as it could affect the carriers, their customers, and their suppliers.

46 The great train race

A dozen and a half high-speed corridors are starting to crystallize, and manufacturers around the world are eyeing a multi-billion-dollar market.

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The concept has been around for 40 years, but complete success has eluded mechanical engineers. Sweden now thinks it's on the right track.

59 Transit: More in '84

1983 was a year of expansion for passenger railroading; 1984 will see more of the same with $3 billion tagged for transit capital outlays alone.

61 Passenger-car market at a glance

An exclusive *Railway Age* report on the number of new passenger cars delivered in 1983, the undelivered backlog, and the outlook for future orders.

63 Clinton shops come to life

As traffic picks up, railroad shops are getting busier. C&NW plans to put three times as many cars through Clinton this year as it did in '83.

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Change!

LUTHER S. MILLER

On a muggy Saturday afternoon last August, the two principal editors of this magazine sat down on a back porch in Hinsdale, Ill., to start planning an editorial program for 1984. This time around it was easy. It was quickly agreed that the railroad story of the year—or even the century—could be summed up in one word: CHANGE. Out of that and subsequent planning sessions came the idea for a series of 12 related articles of which the first—an introductory essay by Senior Editor Gus Welty—appears in this issue (p. 37). Other articles in this year-long series will explore the impact of change on specific railroad systems (CSX will be first, in February) and, in alternate issues, its impact on broad general areas of railroading (we'll tackle the right-of-way in March).

The reasoning behind this series is summed up in the editorial calendar that has now been circulated to our staff: "Change is sweeping the railroad industry—change of a magnitude not seen since the expansionist days of the 19th century. This late 20th century revolution has come so quickly that it is not fully understood by the railroads' customers, by their investors, by their suppliers—indeed, by many railroaders themselves."

It is our hope that, by synthesizing the best thinking that is now going on, inside and outside the industry, we can contribute to a better understanding of what is happening—and what might lie ahead.

In addition to the CHANGE series, each issue of *Railway Age* in 1984 will carry half a dozen other main features covering every aspect of freight railroading as well as rail transit—all part of carrying out our pledge to be the railroad publication that covers all of the industry, all of the time.

High-speed trains: When—and where?

The high speed revolution has been slow to reach our shores. During the years when we have been spending billions to upgrade the Northeast Corridor to 120-mph speeds—a still unfinished task—the French have built a 167-mph TGV system that is now in its third year of operation and is already expanding. But our time may at last be approaching. A dozen and a half corridors are now being explored for their high-speed-train potential, with the enthusiastic encouragement of the purveyors of half a dozen fast, very fast, or ultra-fast technologies. Associate Editor Frank Malone's appraisal of what is going on, and what may happen in the near or distant future, starts on p. 46.

Market Outlook

Facilities

Amtrak: Fixed-plant expenditures for FY 1984 will include $28 million for Northeast Corridor (non-NECIP) right-of-way programs; $6 million for maintenance-facility reconstruction at Los Angeles; $4 million for redevelopment of Penn Station and $3 million for reconstruction of Sunnyside Yard, New York. Los Angeles and New York expenditures represent Phase I work on the respective projects.

CP Rail: Is constructing an intermodal terminal in Strathcona Industrial Park, Edmonton, at a cost of $14 million. The facility is scheduled to open in October 1984.

CN Rail/CP Rail: A projected 10-year, $16-billion capital improvement program (*RA*, Dec., 1983, p. 11) includes an estimated $750 million for signal and communications projects.

Massachusetts Bay Transportation Authority: General Railway Signal is the apparent low bidder, at $21.9 million, for signaling MBTA's Orange Line in Boston. For this Southwest Corridor project, GRS will supply and oversee the installation and testing of transit signals, communications and cab signals. The project is to be completed by December 1986.

New York DOT: Has designated a research team headed by Peat, Marwick, Mitchell and Co. and including Transportation and Distribution Associates and Gellman Research Associates to carry out a $200,000 study to evaluate market demand for a proposed "very-high-speed" rail passenger line linking New York City, Albany, and Montreal.

Union Pacific System: Will build an automobile distribution center on a 40-acre site adjacent to the Missouri Pacific main line near Reisor, La., to serve the Shreveport area. The terminal, which will have five unloading tracks, is scheduled for completion in February.

Freight cars and locomotives

	DELIVERED				
	November		October	Eleven Months	
	1983	1982	1983	1983	1982
Built new by carbuilders	615	525	736	4,825	15,061
Built new in RR shops	0	85	0	202	1,433
Built new—total	615	610	736	5,027	16,494
Rebuilt	0	140	0	100	1,326
TOTAL DELIVERED	**615**	**750**	**736**	**5,127**	**17,820**
Locomotives (new and rebuilt)	11	39	43	209	427
	ORDERED				
To be built new by carbuilders	351	249	642	5,157	6,090
To be built new in RR shops	0	0	0	2	750
To be built new—total	351	249	642	5,159	6,840
To be rebuilt	0	0	0	100	600
TOTAL ORDERED	**351**	**249**	**642**	**5,259**	**7,440**

ON ORDER AND UNDELIVERED

	December 1		November 1	Average Backlog	
	1983	1982	1983	1983	1982
To be built new by carbuilders	3,156	4,378	3,368	3,969	8,194
To be built new in RR shops	0	488	0	25	824
To be built new—total	3,156	4,866	3,368	3,994	9,018
To be rebuilt	0	174	0	25	342
TOTAL ON ORDER	**3,156**	**5,040**	**3,368**	**4,019**	**9,360**
Locomotives (new and rebuilt)	128	69	128	122	147

Source: Transportation Division, AAR

Equipment

Burlington Northern: Acquired 500 Strick trailers, valued at $7.5 million, under a lease arrangement with PLM Transportation Equipment Corp.

Caltrans: Sumitomo, which is supplying up to 63 push-pull commter cars for Caltrans' Peninsula Commute Rail Service, awarded a contract to General Electric to assemble them in San Francisco.

CN Rail: The Transcona Shops in Winnipeg, which built 432 100-ton-capacity gondola coal cars in 1983, will build an additional 216 cars in 1984 to complete the $37-million contract.

CN Rail and CP Rail: Have been seeking tenders from Bombardier and from General Motors of Canada for the supply of a total of 70 new main-line diesel-electric units—40 for CN, 30 for CP. Meanwhile, CP Rail has ordered 150 100-ton ballast cars worth $9.1 million (Canadian) from National Steel Car for use in the 1984 track program, which CP says will be about double that of 1982.

Chesapeake & Ohio: Awarded an issue of $21,345,000 of equipment trust certificates to a syndicate headed by Merrill Lynch White Weld Capital Markets Group. The offer represented a net interest cost to the company of 11.95%. The trust will finance 100% of the estimated cost of 23 3,500-hp SD-50 Electro-Motive diesel-electric units.

Chessie System: Plans to acquire 171 fully-enclosed auto rack cars (70 bi-level and 101 tri-level) at a cost of more than $5.3 million.

New York Metropolitan Transportation Authority: Ordered 19 push-pull commuter cars, valued at $20 million (Canadian), from Bombardier for service on Metro North's Upper Hudson line.

Market Indicators

ARCI 1984 market forecast summary

The 27 carbuilders, component suppliers and others who participated in the American Railway Car Institute's 1984 market forecast expect both orders and deliveries of new cars to be substantially above the rock-bottom levels of 1983; but it will still be a year of low activity as railroads continue to work off their car surpluses.

The "median" forecast for 1984 calls for 20,000 cars ordered and 12,900 delivered. The 1985 forecast calls for orders rising to 33,000 cars, with 25,000 cars delivered.

FREIGHT CARS

		Average	Median	Range Low	Range High
1984 Orders -	All respondents	19,029	20,000	4,981	33,000
	Carbuilders	17,754	16,000	9,800	30,000
	Others	20,213	20,000	4,981	33,000
1984 Deliveries -	All respondents	13,341	12,900	4,347	26,000
	Carbuilders	13,735	12,500	8,600	26,000
	Others	12,975	12,950	4,347	23,000

Respondents - 13 Carbuilders
14 Components and Others

Source: American Railway Car Institute

Revenue freight carloadings

Commodity	Dec. 10 week	% change from 1982	Dec. 3 week	% change from 1982	Nov. 26 week	% change from 1982	Nov. 19 week	% change from 1982
Grain	31,275	48.9	25,852	7.5	23,420	21.8	31,252	13.8
Other farm products	4,106	(30.6)	4,213	(31.5)	3,471	(36.2)	3,971	(33.2)
Metallic ores	14,286	2.8	15,343	41.5	13,040	22.3	16,583	48.5
Coal	111,340	7.0	104,743	8.8	83,966	7.1	113,888	6.5
Crushed stone, gravel and sand	10,192	26.5	10,583	23.5	7,428	21.8	10,973	16.0
Nonmetallic minerals	11,620	12.2	12,442	22.0	8,309	13.3	11,194	12.0
Grain mill products	11,520	(4.9)	10,447	(11.8)	8,555	(10.0)	10,519	(11.0)
Food and kindred products	11,666	(10.0)	11,504	(11.3)	8,761	(15.2)	11,450	(15.8)
Primary forest products	14,595	1.0	15,187	6.0	10,550	0.1	15,139	0.9
Lumber and wood products (except furniture)	6,963	14.0	6,901	11.5	5,169	5.6	7,168	9.7
Pulp, paper and allied products	15,313	(1.7)	16,058	(2.3)	13,593	(4.7)	14,829	(4.2)
Chemicals and allied products	23,412	16.7	25,398	17.6	20,015	19.6	23,959	18.7
Petroleum products	4,891	7.4	4,875	7.0	3,597	(1.7)	4,865	(2.0)
Stone, clay and glass products	10,406	19.5	10,818	15.2	8,535	8.5	10,482	10.8
Coke	5,639	52.6	6,427	66.7	4,486	35.0	5,419	63.9
Metals and products	8,968	42.6	9,564	33.0	7,530	48.3	8,902	27.7
Motor vehicles and equipment	20,794	42.5	19,808	50.1	14,129	47.5	20,168	55.4
Waste and scrap materials	9,493	38.6	8,753	33.8	6,630	30.0	9,621	26.7
Forwarder and shipper assn. traffic	9,928	34.0	9,379	33.5	7,156	25.3	9,825	28.0
All other carloads	54,956	18.9	52,308	20.0	42,059	19.4	55,235	22.1
LCL traffic	244	(76.3)	236	(76.4)	185	(73.6)	270	(74.6)
Total Cars Loaded	**391,607**	**14.0**	**380,839**	**13.4**	**300,584**	**11.5**	**395,712**	**12.1**

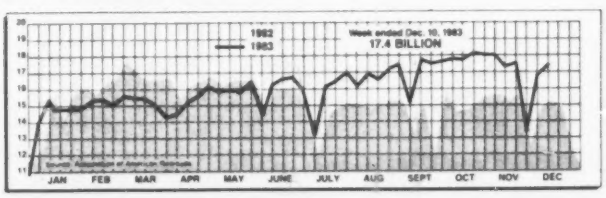
Estimated revenue ton-miles (billions)	1983	1982	% change from 1982
49 weeks	783.8	758.8	3.3

Piggyback loadings

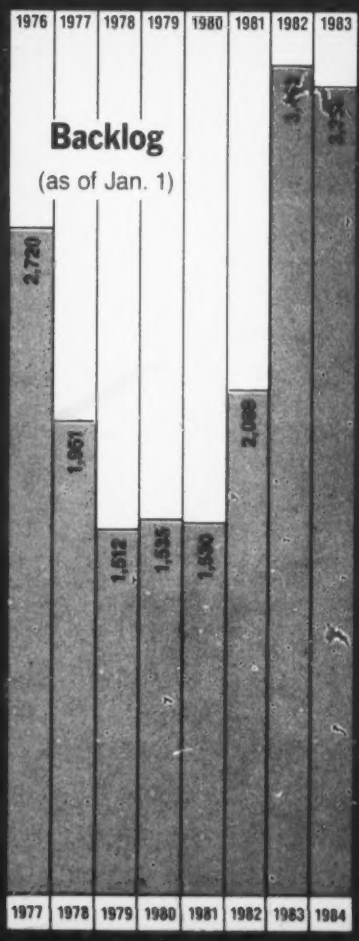
Week ended	Cars loaded 1983	% increase from 1982	Trailers/ containers 1983	% increase from 1982
November 12	48,596	23.6	85,915	24.6
November 19	49,684	23.8	89,484	26.8
November 26	37,081	20.3	64,736	21.3
December 3	47,197	20.1	87,032	27.0
Cumulative total,				
48 weeks	2,164,812	21.7	3,759,167	19.4

Rail freight traffic trends

Billion ton miles (Estimated)



Passenger-car market at a glance



These cars were delivered in 1983:

Purchaser	No. of Cars	Type	Builder
Amtrak	31	Intercity	Budd
Baltimore (MdMTA)	48	Rapid Transit	Budd
Buffalo (NFTA)	2	Light Rail	Tokyu Car
Calgary	18	Light Rail	Siemens DuWag
Chicago (CTA)	124	Rapid Transit	Budd
Chicago-Northern Indiana (CSS&SB)	32	Commuter (self-propelled)	Sumitomo
Edmonton	16	Light Rail	Siemens DuWag
Miami (MDTA)	20	Rapid Transit	Budd
New Jersey (NJ Transit)	43	Commuter	Bombardier
New York (MTA-Metro North)	10	Commuter	Budd
	9	Commuter	Bombardier
New York (NYCTA)	25	Rapid Transit	Kawasaki
Philadelphia (SEPTA)	120	Rapid Transit	Kawasaki
	3	Light Rail	Kawasaki
San Francisco (Muni)	25	Light Rail	Boeing Vertol
Toronto (GO Transit)	71	Commuter	Hawker-Siddeley
Washington (WMATA)	30	Rapid Transit	Breda
Total	**627**		

Work goes forward on this undelivered backlog:

Purchaser	No. of Cars	Type	Builder
Amtrak	3	Intercity (prototypes)	Amtrak
Atlanta (MARTA)	50	Rapid Transit	Hitachi C. Itoh
Baltimore (MdMTA)	42	Rapid Transit	Budd
Boston (MBTA)	50	Light Rail	Kinki Sharyo C. Itoh
Buffalo (NFTA)	25	Light Rail	Tokyu Car
Calgary	38	Light Rail	Siemens DuWag
Chicago (CTA)	370	Rapid Transit	Budd
Cleveland (GCRTA)	60	Rapid Transit	Tokyu Car
Detroit (SEMTA)	13	Advanced Light Rapid Transit	Urban Transit Dev. Corp.
Miami (MDTA)	116	Rapid Transit	Budd
	12	People Mover	Westinghouse Electric Kawasaki
New York (MTA-LIRR)	174	Commuter	Budd
New York (MTA-Metro North)	132	Commuter	Budd
	19	Commuter	Bombardier
New York (NYCTA)	300	Rapid Transit	Kawasaki
	825	Rapid Transit	Bombardier
	225	Rapid Transit	Westinghouse-AmRail
Pittsburgh (PAT)	55	Light Rail	Siemens DuWag
Portland (TRI-MET)	26	Light Rail	Bombardier
San Francisco (BART)	150	Rapid Transit	SOFERVAL
San Francisco (Caltrans-Peninsula Commute Rail Service)	42	Commuter	Sumitomo
San Francisco (Muni)	5	Light Rail	Boeing Vertol
Santa Clara (SCTD)	50	Light Rail	Urban Transit Dev. Corp.
Toronto (TTC)	126	Rapid Transit	Urban Transit Dev. Corp. Hawker-Siddeley
	22	Advanced Light Rapid Transit	Urban Transit Dev. Corp.
Vancouver	114	Advanced Light Rapid Transit	Urban Transit Dev. Corp.
VIA Rail Canada	50	Intercity	Bombardier
Washington (WMATA)	264	Rapid Transit	Breda
Total	**3,358**		

Orders likely to develop in 1984:

Purchaser	No. of Cars	Type
Atlanta (MARTA)	30	Rapid Transit
Boston (MBTA)	58	Rapid Transit
	40	Commuter
Montreal	27	Rapid Transit
New York and New Jersey (PATH)	50	Rapid Transit
New York (MTA-Metro North)	54	Commuter
Philadelphia (SEPTA)	50	Commuter
Sacramento (STDA)	26	Light Rail
San Diego (MTDB)	6	Light Rail
San Francisco (Caltrans-Peninsula Commute Rail Service)	21	Commuter
Toronto (GO Transit)	90-120	Advanced Light Rapid Transit
Toronto (TTC)	75	Light Rail
Total	**527-557**	

The five-year (1985-1989) outlook:

Purchaser	No. of Cars	Type
Amtrak	60-140	Intercity
Atlanta (MARTA)	0-20	Rapid Transit
Boston(MBTA)	40-100	Commuter
Calgary	0-35	Light Rail
Chicago (CTA)	250-300	Rapid Transit
Detroit (SEMTA)	55-65	Light Rail
	16-25	Commuter
Los Angeles (SCRTD)	130	Rapid Transit
Montreal	42	Rapid Transit
Philadelphia (SEPTA)	0-50	Commuter
	20-30	Light Rail
Portland (TRI-MET)	7-35	Light Rail
Sacramento (STDA)	0-15	Light Rail
San Diego (MTDB)	10	Light Rail
San Francisco (BART)	150	Rapid Transit
San Francisco (Muni)	0-10	Light Rail
Toronto (TTC)	6	Advanced Light Rapid Transit
VIA Rail Canada	150-185	Intercity
Washington (WMATA)	70-160	Rapid Transit
Total	**1,006-1,508**	

REVENUES AND EXPENSES OF RAILWAYS

Third quarter figures of calendar year 1983

(Dollar figures are stated in thousands, i.e., with last three digits omitted)

		Operating revenues				Operating expenses														
						Ways & structures			Equipment											
		Freight	Other	Total 1983	Total 1982	Total 1983	Total 1982	1983 Deprec.	Total 1983	Total 1982	1983 Deprec.	Total 1983	Total 1982	Operating ratio 1983	Operating ratio 1982	Income after fixed charges 1983	Income after fixed charges 1982	1983 Net Ry. operating income	Net income 1983	Net income 1982
Amtrak	3 mos.	—	193,444	193,444	157,537	37,191	32,170	9,932	85,939	74,852	20,076	352,912	303,987	182.43	192.96	(181,100)	(171,801)	(159,468)	(181,100)	(171,801)
	9 mos.	—	509,349	509,349	405,357	113,340	89,423	17,882	264,201	227,696	60,941	1,031,295	907,895	202.47	223.97	(579,843)	(570,597)	(521,946)	(579,843)	(570,597)
Atchison, Topeka & Santa Fe	3 mos.	543,576	10,272	553,848	524,275	90,891	77,623	3,985	118,934	114,872	23,712	498,090	484,530	89.93	92.41	56,176	35,895	38,594	38,800	30,129
	9 mos.	1,517,194	29,184	1,546,378	1,589,358	245,835	225,004	11,599	363,161	365,518	70,959	1,452,184	1,491,745	93.90	93.85	82,663	74,883	72,155	59,942	57,184
Baltimore & Ohio*	3 mos.	225,922	8,498	234,420	217,346	64,697	54,038	2,308	49,567	45,286	7,234	241,161	220,007	102.87	101.22	(7,503)	(7,802)	9,722	3,650	5,374
	9 mos.	636,813	24,319	661,132	710,124	162,629	169,546	6,918	153,132	159,934	21,508	689,114	716,696	104.23	100.92	(19,048)	(10,981)	(12,038)	(12,546)	3,030
Bessemer & Lake Erie	3 mos.	13,441	4,811	18,252	22,737	4,077	4,243	989	2,220	1,921	1,151	15,565	21,096	85.27	92.78	3,047	2,243	1,348	1,706	2,464
	9 mos.	38,661	9,801	48,462	64,480	9,721	10,902	2,966	6,142	9,667	3,464	45,011	63,481	92.87	98.45	4,109	3,709	1,760	2,416	4,029
Boston & Maine	3 mos.	27,785	1,263	29,048	29,881	6,685	7,019	363	9,011	8,456	359	30,781	31,473	105.96	105.32	(1,744)	(335)	(1,858)	(1,744)	(528)
	9 mos.	82,980	3,720	86,700	91,406	17,102	18,658	1,090	26,118	25,501	1,083	91,237	93,635	105.23	102.43	(3,568)	1,648	(4,313)	(3,945)	1,069
Burlington Northern	3 mos.	1,019,333	21,956	1,041,289	934,165	239,806	233,190	6,488	177,445	185,849	17,169	888,965	894,791	85.37	95.78	155,913	55,757	84,725	88,304	48,235
	9 mos.	2,913,452	64,545	2,977,997	2,791,691	615,725	604,724	17,715	531,178	587,114	52,519	2,597,678	2,671,611	87.22	95.69	355,164	134,752	231,992	206,807	102,637
Chesapeake & Ohio	3 mos.	236,861	10,212	247,063	243,264	59,843	59,908	1,955	52,306	47,369	3,508	233,637	228,239	94.56	93.82	11,939	21,343	6,129	4,619	23,176
	9 mos.	678,860	27,050	705,930	799,734	149,245	165,965	5,894	153,634	166,773	10,542	654,392	719,566	92.69	89.97	37,627	120,834	33,833	19,884	98,270
Chicago & North Western	3 mos.	205,309	29,228	234,537	207,932	50,119	54,251	1,596	55,106	48,693	4,536	222,606	215,261	94.91	103.52	3,167	(12,906)	11,350	3,167	(12,912)
	9 mos.	562,860	77,533	640,393	610,318	121,561	132,497	4,775	151,736	153,813	13,570	612,014	633,855	95.56	103.85	10,703	(22,931)	30,112	10,703	(22,949)
Chicago & Milwaukee, St. Paul & Pac.	3 mos.	88,980	4,902	93,882	87,541	17,680	26,302	566	26,734	26,853	3,303	96,824	105,006	103.13	119.95	(1,835)	1,533	(2,953)	(1,182)	3,064
	9 mos.	256,573	13,893	270,466	283,957	52,752	67,497	1,990	75,675	82,468	10,045	275,216	315,377	101.75	111.06	(22,178)	2,792	(4,828)	2,492	(10,166)
Conrail	3 mos.	717,636	29,734	747,370	822,359	159,215	222,834	6,563	180,841	210,417	36,505	716,036	885,340	95.80	107.65	30,557	(61,985)	31,888	35,600	(25,108)
	9 mos.	2,151,298	80,302	2,231,600	2,631,484	448,104	579,336	21,026	548,701	682,058	109,123	2,148,301	2,720,504	96.26	103.38	73,461	(92,670)	84,141	90,292	(20,541)
Delaware & Hudson	3 mos.	28,516	496	29,012	27,490	5,536	6,308	164	7,806	7,244	855	29,171	29,728	100.54	108.14	(2,972)	(4,484)	(126)	(2,972)	(4,484)
	9 mos.	78,590	2,436	81,026	85,151	15,036	19,291	478	23,623	22,465	2,620	84,855	91,572	104.72	107.54	(11,911)	(12,940)	(3,731)	(11,911)	(12,940)
Denver & Rio Grande Western	3 mos.	78,671	1,469	80,140	68,779	13,440	14,533	752	16,938	12,827	3,088	75,479	67,333	94.18	97.89	3,664	1,338	3,565	2,861	85
	9 mos.	221,635	4,453	226,088	225,435	36,422	38,307	2,135	47,807	41,600	9,309	213,828	205,413	94.57	91.11	10,872	18,884	10,559	16,884	13,254
Detroit, Toledo & Ironton	3 mos.	14,327	555	14,882	15,906	2,203	2,844	117	4,710	5,765	823	16,633	19,242	111.76	120.97	(2,522)	(3,738)	(1,747)	(2,522)	(3,738)
	9 mos.	45,075	1,826	47,801	52,255	8,498	11,227	364	14,933	18,655	2,657	52,115	62,636	109.02	119.86	(7,187)	(11,508)	(4,303)	(7,187)	(11,508)
Duluth, Missabe & Iron Range	3 mos.	22,593	818	23,411	11,234	6,564	6,601	1,087	2,196	2,153	715	16,780	15,636	71.67	139.18	7,111	(3,153)	2,709	3,736	(1,544)
	9 mos.	54,498	1,769	56,267	45,291	17,253	17,413	2,932	6,509	7,505	2,149	47,257	51,424	83.98	113.54	10,378	(2,922)	2,853	5,885	(1,186)
Elgin, Joliet & Eastern	3 mos.	13,946	8,417	22,363	16,580	3,639	3,031	197	2,842	2,493	1,892	21,318	18,727	95.32	99.18	1,891	915	225	1,071	486
	9 mos.	43,176	24,607	67,783	60,247	9,745	10,983	591	8,507	6,569	5,622	62,322	61,367	91.94	88.62	7,783	11,246	2,753	4,284	6,086
Florida East Coast	3 mos.	23,804	333	24,137	21,663	4,881	5,961	331	4,355	3,065	1,100	20,925	19,471	86.69	89.88	5,989	3,998	641	3,418	2,626
	9 mos.	74,082	932	75,014	66,623	15,669	16,667	983	11,954	9,974	3,290	61,044	58,656	81.37	88.04	50,922	13,353	(4,982)	31,970	9,024
Grand Trunk Western	3 mos.	50,610	3,025	53,635	57,576	7,803	9,005	507	13,041	12,456	1,224	59,358	58,747	110.67	102.03	(6,703)	(2,429)	(5,039)	(6,025)	(2,087)
	9 mos.	156,110	9,563	165,673	186,189	22,551	26,781	1,490	37,231	40,379	3,867	172,771	184,513	104.28	99.09	(10,132)	(383)	(4,954)	(7,996)	1,069
Illinois Central Gulf	3 mos.	198,370	18,770	217,140	205,926	32,445	51,234	1,946	68,075	68,891	5,551	219,504	237,678	101.08	115.41	(11,819)	(33,154)	(2,238)	(12,173)	(30,290)
	9 mos.	600,238	56,416	656,654	683,446	89,152	154,192	5,897	204,295	213,256	16,870	652,959	763,268	99.43	111.67	(17,348)	(70,546)	4,079	(16,402)	(66,643)

Kansas City Southern	3 mos.	77,016	3,453	80,469	72,504	13,471	15,355	785	18,636	16,046	5,325	70,017	66,838	87.01	92.18	9,045	3,068	6,554	8,507	2,840
	9 mos.	222,367	9,726	232,095	237,000	41,366	47,621	2,350	54,789	50,241	15,620	205,777	208,396	88.66	87.93	21,879	20,476	18,830	17,899	15,469
Missouri-Kansas-Texas	3 mos.	51,923	2,763	54,686	57,799	9,918	10,993	411	13,348	14,659	1,723	51,146	54,543	93.52	94.36	932	1,017	3,269	932	1,017
	9 mos.	160,819	7,551	168,370	178,926	27,106	29,189	1,233	40,718	47,796	5,482	154,091	166,794	91.51	93.21	7,075	4,456	13,707	7,275	4,456
Missouri Pacific	3 mos.	404,423	10,366	414,789	409,457	74,074	74,507	2,763	96,408	94,474	18,198	372,867	374,574	89.89	91.48	29,729	27,246	36,829	22,155	23,060
	9 mos.	1,207,348	29,942	1,237,290	1,300,607	216,381	200,585	8,266	282,810	304,736	54,066	1,123,921	1,149,582	90.83	88.38	73,459	130,466	97,730	50,344	95,329
Norfolk & Western	3 mos.	359,949	15,358	385,307	380,164	88,893	116,775	3,993	66,065	66,288	14,170	331,774	364,344	86.10	95.83	81,692	61,744	36,987	58,336	37,528
	9 mos.	1,076,240	42,871	1,119,111	1,354,797	254,736	268,203	11,726	206,976	230,019	42,721	1,000,125	1,085,812	89.36	80.14	188,650	360,772	76,980	124,057	220,479
Pittsburgh & Lake Erie	3 mos.	9,639	456	10,095	9,744	1,326	1,516	49	4,740	4,939	420	13,757	15,334	136.27	157.26	(5,505)	(8,483)	(1,638)	(3,500)	(5,186)
	9 mos.	28,843	1,179	30,022	37,488	4,797	7,400	142	14,208	10,683	1,072	43,439	47,751	144.69	127.37	(20,549)	(14,739)	(4,186)	(18,544)	(13,158)
St. Louis Southwestern	3 mos.	95,341	1,439	96,780	76,214	15,656	12,098	713	24,424	17,105	1,653	91,512	69,603	94.55	91.32	8,602	7,144	5,528	8,862	5,096
	9 mos.	267,231	4,218	271,449	264,850	38,996	39,530	2,069	67,658	58,593	13,214	251,252	232,021	92.55	87.60	25,399	36,640	12,173	17,375	26,595
Seaboard System	3 mos.	596,826	12,499	609,325	566,754	107,903	106,354	5,022	155,301	144,671	19,716	577,237	554,759	94.73	97.86	20,113	6,249	34,236	19,481	14,848
	9 mos.	1,780,157	38,965	1,819,122	1,826,482	313,467	333,231	15,254	470,038	458,730	58,841	1,722,250	1,763,089	94.67	96.52	72,037	57,804	100,220	67,275	70,355
Soo Line	3 mos.	79,827	1,873	81,700	69,304	20,923	18,498	484	16,379	14,339	2,038	74,523	66,783	91.21	96.36	7,518	3,552	4,540	4,678	2,807
	9 mos.	210,026	4,839	214,865	216,514	46,891	46,624	1,443	48,421	46,505	6,086	204,370	200,187	95.11	92.45	11,161	19,904	7,008	7,056	12,881
Southern	3 mos.	398,453	9,022	407,475	387,040	75,090	64,885	5,273	79,055	83,085	19,790	354,616	346,782	87.02	89.59	49,153	36,766	33,457	28,429	26,367
	9 mos.	1,173,757	25,833	1,199,590	1,219,568	195,895	189,725	15,824	241,833	247,672	59,467	1,025,613	1,047,345	85.49	85.87	164,411	174,411	116,263	95,759	113,097
Southern Pacific	3 mos.	488,637	14,029	502,666	472,970	100,535	69,870	4,913	143,629	132,208	21,299	546,176	487,824	108.65	103.14	(31,981)	(5,125)	14,001	25,530	6,875
	9 mos.	1,421,634	40,598	1,462,232	1,551,085	269,008	247,709	14,642	411,778	449,598	64,061	1,556,673	1,606,923	106.45	103.59	(75,532)	(18,022)	(36,931)	(18,022)	518
Union Pacific	3 mos.	456,594	6,667	463,261	430,374	62,814	66,796	3,470	92,532	88,253	23,879	390,297	377,583	84.24	87.73	66,383	44,318	47,844	41,215	28,030
	9 mos.	1,311,319	19,236	1,330,555	1,361,003	202,360	206,469	10,404	273,996	282,527	71,782	1,190,083	1,218,354	89.44	89.51	132,710	124,989	91,113	83,213	78,928
Western Pacific	3 mos.	37,015	428	37,443	43,246	5,407	6,977	151	10,425	9,976	1,765	42,589	44,376	113.74	102.61	(7,609)	(1,882)	358	(2,134)	(887)
	9 mos.	113,959	1,294	115,253	134,145	18,563	21,767	445	30,763	30,937	5,300	132,441	139,124	114.91	103.71	(14,828)	(2,199)	(8,336)	(6,065)	(594)

*B&O figures include second and third quarter revenues and expenses of Western Maryland Railway Co. to reflect combined operations since May 1, 1983.

ADVERTISING SALES

Arthur J. McGinnis, Jr., Vice President-Marketing

New York, New England, Mid-Atlantic, Quebec
W. Arthur Cubbage
345 Hudson Street
New York, NY 10014
(212) 620-7200

Colorado, Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North & South Dakota, Wisconsin
Glen A. Schlueter
29 E. Madison Street
Chicago, IL 60602
(312) 841-5815

Ohio, Western Pennsylvania, West Virginia, Western New York, Ontario
Ronald M. Giallonardo
1005 McKnight Park Drive, McKnight East
Pittsburgh, PA 15237
(412) 366-0702

Southeast
Barbara Smith
345 Hudson Street
New York, NY 10014
(212) 620-7244

Southwest, Kansas City
Tony Halbert
3024 Sandage Street
Fort Worth, TX 76109
(817) 923-9832

Southern California, Arizona, Utah, Nevada, New Mexico
Edward Kianer
2665 30th Street, Suite 102
Santa Monica, CA 90403
(213) 450-9134

Northern California, Northwest, Western Canada
Chris Vogler
3030 Bridgeway Building
Sausalito, CA 94965
(415) 332-6750

United Kingdom, Scandinavia, Spain, Portugal, and Netherlands
Kenneth J. Hendry, Derek Wood
West House
West Street
Faversham
Kent, ME13 7JB
Tel. 0795 531343
Telex. 96118 ANZEEC G

France, Belgium and French-speaking Switzerland
Gerard Lastarques
32 Rue Desbordes-Valmore
75116 Paris, France
Tel: 504 97 94

Germany, Austria, Eastern Europe, and German-speaking Switzerland
Siegfried D. Kamper
P.O. Box 300468
6054 Rodgau 3, West Germany
Tel: 6106 72968
Telex: 4189 036

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F. Pecori Giraldi
Promark International
Via G. Frua 8
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Tel: 46 35 18

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C.H. Yiu
Sun-Gain Shia Ltd.
Kimuraya-Makino Building
1-15-8 Shiba Minato-ku
Tokyo, Japan
Tel: 453 7361

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Pyung Youn Huh
Intra Media Co. Ltd.
CPO Box 6687
Seoul, Korea
Tel: 28 5345

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1431 Buenos Aires, Argentina
Telex: 22612 TURBO AR

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